CLAIMS

1. A coated cemented carbide cutting tool insert, said coating comprising:

a first, innermost layer system of at least two layers of $TiC_xN_yO_z$ with $x+y+z \leq 1$; and

a second multilayer system comprising from about 5 to about 31 alternating layers of Al_2O_3 and $TiC_xN_yO_z$ ($x+y+z \leq 1$), the Al_2O_3-layers having an individual layer thickness of <0.5 μm and the $TiC_xN_yO_z$-layers from about 0.01 to about 0.2 μm with a total thickness of the multilayer from about 1.0 to about 4.0 μm, and wherein the multilayer is exposed along the edge line and into the rake and flank face, such that the exposure on the rake face (a) is greater than about 0.03 and less than about 0.9 mm, the exposure on the flank face (b) is greater than about 0.02 and less than about 0.2 mm and a>b.

2. The insert of claim 1 wherein the said second multilayer system comprises from about 11 to about 15 alternating layers of κ-Al_2O_3 and TiN, the κ-Al_2O_3-layers having an individual layer thickness of from about 0.2 to about 0.5 μm and the TiN layers from about 0.02 to about 0.15 μm with a total thickness of the multilayer from about 1.5 to about 3.5 μm.

3. The cutting tool of claim 1 wherein the innermost layer system comprises:

a first layer $TiC_xN_yO_z$ with $x+y+z \leq 1$ with equiaxed grains with size <0.5 μm and a total thickness <1.5 μm but >0.1 μm, and

a second layer of $TiC_xN_yO_z$ with $x+y+z \leq 1$ with a thickness of from about 0.4 to about 3.9 μm with columnar grains.

4. The cutting tool of claim 1 wherein the innermost layer system comprises:

a first layer $TiC_xN_yO_z$ with y>x and z<0.2 with equiaxed grains with size <0.5 μm and a total thickness from about 0.1 to about 0.6 μm, and

a second layer of $TiC_xN_yO_z$ with z=0, x>0.3 and y>0.3 with a thickness of from about 1.5 to about 3.0 μm with columnar grains.

5. The cutting tool of claim 3 wherein the innermost layer system comprises:

a first layer $TiC_xN_yO_z$ with $y>0.8$ and $z=0$, with equiaxed grains with size <0.5 μm and a total thickness from about 0.1 to about 0.6 μm, and

a second layer of $TiC_xN_yO_z$ with $x>0.5$ with a thickness of from about 1.5 to about 3.0 μm with columnar grains.

6. Cutting tool of claim 3 the innermost layer system further comprises a third layer of $TiC_xN_yO_z$ with $x+y+z\leq1$ with equiaxed grains with size <0.5 μm and a total thickness <1.5 μm but >0.1 μm.

7. Cutting tool of claim 3 the innermost layer system further comprises a third layer of $TiC_xN_yO_z$ with $y>x$ and $z<0.2$ with equiaxed grains with size <0.5 μm and a total thickness from about 0.2 to about 0.8 μm.

8. Cutting tool of claim 6 the innermost layer system further comprises a third layer of $TiC_xN_yO_z$ with $y>0.8$ and $z=0$ with equiaxed grains with size <0.5 μm and a total thickness from about 0.2 to about 0.8 μm.

9. Cutting tool of claim 1 wherein the total thickness of the innermost layer system is from about 0.7 to about 4.5 μm.

10. Cutting tool of claim 1 wherein the total thickness of the innermost layer system is from about 1.2 to about 4.0 μm.

11. Cutting tool of claim 1 wherein there is an outermost layer system on top of the multilayer comprising one or more layers of TiC_xN_y ($x+y\leq1$) or combinations thereof.

12. Cutting tool of claim 1 wherein there is an outermost layer system on top of the multilayer comprising three layers in sequence of TiN, TiC and TiN or combinations thereof.

13. The cutting tool of claim 1 wherein the total thickness of the coating is from about 2.0 to about 8.0 μm.

14. The cutting tool of claim 1 wherein the total thickness of the coating is from about 4.0 to about 7.0 μm.

15. The cutting tool of claim 1 wherein the multilayer and partly the innermost $TiC_xN_yO_z$ layer system is exposed along the edge line.

16. The cutting tool of claim 1 wherein the cemented carbide substrate has a composition of from about 7 to about 10.5 wt% Co from about 0.2 to about 1.6 wt% cubic carbides, and balance WC with an average grain size of from about 1.5 to about 3.5 μm.

17. The cutting tool of claim 1 wherein the cemented carbide substrate has a composition of from about 8.0 to about 9.5 wt% Co, from about 0.4 to about 1.0 wt% cubic carbides of the metals Ta, Nb and Ti and possibly other carbides of the elements from group IVb, Vb or VIb of the periodic table and balance WC with an average grain size of from about 1.9 to about 2.1 μm.

18. The cutting tool of claim 1 wherein the cemented carbide substrate has a cubic carbide depleted and binder phase enriched volume near the surface with a distance from the surface of from about 5 to about 50 μm with a substrate composition comprising from about 7.0 to about 10.5 wt% Co and from about 4.0 to about 9.0 wt% cubic carbides of elements from group IVb, Vb or VIb of the periodic table preferably Nb, Ta and/or Ti and balance tungsten carbide, WC and an N-content in the range of from about 0.01 to about 0.2 wt%.